

$\frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} f(x) e^{-x^2} dx = \frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} f(x) e^{-x^2} dx$

WE CLAIM

CLAIMS

1 1. A surgical barrier device for use during surgery on a person,
2 comprising:

3 a flexible base sheet with two ends, two edges, and a plurality of apertures
4 that open through the base sheet;

5 an overlaying material sheet attached to a first surface of said base sheet by
6 a plurality of seals to form an inflatable portion, the apertures opening through said
7 base sheet into said inflatable portion;

8 a continuous seam between said overlaying material sheet and said base sheet
9 near the periphery of said inflatable portion;

10 said inflatable portion being sized and configured to cover one or more
11 portions of said person;

12 a surgical drape attached to, or formed integrally with, said inflatable thermal
13 blanket and extending beyond said continuous seam, said surgical drape for covering
14 additional portions of a person; and

15 an opening in said surgical drape for accessing a surgical site on said person.

16 2. A surgical barrier device in accordance with Claim 1, wherein said
17 inflatable portion is for covering the pelvic region and lower extremities of said
18 person, and said surgical drape is generally rectangular in shape.

19 3. A surgical barrier device in accordance with Claim 2, wherein said
20 inflatable portion has a recess at an end thereof, and said opening is adjacent to said
21 recess.

1 4. A surgical barrier device in accordance with Claim 1, wherein said
2 inflatable portion is configured to cover the chest and upper extremities of said
3 person, and said surgical drape is generally rectangular in shape.

1 5. A surgical barrier device in accordance with Claim 4, wherein said
2 inflatable portion has a recess at a first end thereof and a recess at a second end
3 thereof, and said opening is adjacent to said second end recess.

1 6. A surgical barrier device in accordance with Claim 1, wherein said
2 inflatable portion is configured to cover the torso and upper extremities of said
3 person, and said surgical drape is generally rectangular in shape.

1 7. A surgical barrier device in accordance with Claim 6, wherein said
2 inflatable portion has a recess at a first end thereof and a recess at a second end
3 thereof, and said opening is adjacent to said second end recess.

1 8. A surgical barrier device in accordance with Claim 1, wherein said
2 inflatable portion is configured to cover the torso, the upper extremities and the lower
3 extremities of said person, and said surgical drape has a generally rectangular head
4 end portion and a pair of foot end portions separated by said opening.

1 9. A surgical barrier device in accordance with Claim 8, wherein said
2 inflatable portion has a recess at an end thereof, and said opening is adjacent to said
3 recess.

1 10. A surgical barrier device in accordance with Claim 9, wherein said
2 opening includes a longitudinal V-shaped notch and a transverse slit intersecting the
3 head end of said notch.

1 11. A surgical barrier device in accordance with Claim 1, further including
2 a frame for supporting the surgical drape away from the face of said person.

1 12. A surgical barrier device in accordance with Claim 1, wherein said
2 surgical drape is formed by an extension of said base sheet.

1 13. A surgical barrier device in accordance with Claim 1, wherein said
2 surgical drape is formed by an extension of said overlaying material sheet.

1 14. A surgical barrier device in accordance with Claim 1, wherein said
2 surgical drape comprises a surgical drape sheet of flexible material which is attached
3 to said base sheet.

1 15. A surgical barrier device in accordance with Claim 1, wherein said
2 surgical drape sheet is attached to said overlaying material sheet.

1 16. A surgical barrier device in accordance with claim 15, wherein said
2 surgical drape sheet is attached at an edge portion thereof to the periphery of said
3 overlaying material sheet.

1 17. A surgical barrier device in accordance with Claim 15, wherein said
2 surgical drape sheet covers the entirety of said overlaying material sheet and is
3 attached to the periphery of said overlaying material sheet.

1 18. A surgical barrier device, comprising:
2 an inflatable thermal blanket that includes:
3 a flexible base sheet with two ends, two edges, and an undersurface;
4 said ends, and respective edges of said base sheet forming a periphery;
5 said base sheet including a layer of fibrous material, said fibrous
6 material layer forming said undersurface;
7 an overlaying material sheet attached to said base sheet by a seal near
8 said periphery to form said base sheet and said overlaying material sheet into
9 said inflatable thermal blanket;
10 an inflating inlet for admitting a thermally controlled, inflating medium
11 into said inflatable thermal blanket; and
12 apertures in said base sheet for exhausting a thermally controlled
13 inflating medium from said inflatable thermal blanket through said base sheet;
14 said inflatable thermal blanket being sized and configured to cover one or
15 more partial portions of a body; and
16 a surgical drape attached to, or formed integrally with, said inflatable thermal
17 blanket, and extending beyond said periphery, said surgical drape being sized and
18 configured to cover additional portions of said body; and
19 an opening formed in said surgical drape for accessing a surgical site on said
20 body.

1 19. A surgical barrier device in accordance with Claim 18, further
2 including a plurality of seals between said overlaying material sheet and said base
3 sheet within said periphery.

1 20. A surgical barrier device in accordance with Claim 18 wherein said
2 inflatable thermal blanket is configured to cover the pelvic region and lower
3 extremities of said body, and said surgical drape is generally rectangular in shape.

1 21. A surgical barrier device in accordance with Claim 20, wherein said
2 inflatable thermal blanket has a recess at an end thereof, and said cutout is adjacent
3 to said recess.

1 22. A surgical barrier device in accordance with Claim 18, wherein said
2 inflatable thermal blanket is configured to cover the chest and upper extremities of
3 said body, and said surgical drape is generally rectangular in shape.

1 23. A surgical barrier device in accordance with Claim 18, wherein said
2 inflatable thermal blanket has a recess at a first end thereof and a recess at a second
3 end thereof, and said opening is adjacent to said second end recess.

1 24. A surgical barrier device in accordance with Claim 18, wherein said
2 inflatable thermal blanket is configured to cover the torso and upper extremities of
3 said body, and said surgical drape is generally rectangular in shape.

1 25. A surgical barrier device in accordance with Claim 24, wherein said
2 inflatable thermal blanket has a recess at a first end thereof and a recess at a second
3 end thereof, and said opening is adjacent to said second end recess.

1 26. A surgical barrier device in accordance with Claim 18, wherein said
2 inflatable thermal blanket is configured to cover the torso, the upper extremities and
3 the lower extremities of said body, and said surgical drape has a generally rectangular
4 head end portion and a pair of foot end portions separated by said opening.

1 27. A surgical barrier device in accordance with Claim 26, wherein said
2 inflatable thermal blanket has a recess at an end thereof, and said opening is adjacent
3 to said recess.

1 28. A surgical barrier device in accordance with Claim 27, wherein said
2 opening includes a longitudinal V-shaped notch and a transverse slit intersecting the
3 head end of said notch.

1 29. A surgical barrier device in accordance with Claim 18, further
2 including a frame for supporting an end of said surgical drape away from the face of
3 said body.

1 30. A surgical barrier device in accordance with Claim 18, wherein said
2 surgical drape is formed by an extension of said base sheet.

1 31. A surgical barrier device in accordance with Claim 18, wherein said
2 surgical drape is formed by an extension of said overlaying material sheet.

1 32. A surgical barrier device in accordance with Claim 18, wherein said
2 surgical drape is formed by a surgical drape sheet of flexible material which is
3 attached to said base sheet.

1 33. A surgical barrier device in accordance with Claim 18, wherein said
2 surgical drape sheet is attached to said overlaying material sheet.

1 34. A surgical barrier device in accordance with claim 33, wherein said
2 surgical drape sheet is attached at an edge portion thereof to the periphery of said
3 overlaying material sheet.

1 35. A surgical barrier device in accordance with Claim 33, wherein said
2 surgical drape sheet covers the entirety of said overlaying material sheet and is
3 attached to the periphery of said overlaying material sheet.

1 36. A surgical barrier device in accordance with Claim 18, wherein said
2 means for exhausting includes a plurality of apertures.

1 37. A surgical barrier device in accordance with Claim 36 wherein said
2 apertures include spaces between the fibers of said fibrous material.

1 38. A surgical barrier device in accordance with Claim 36, wherein said
2 apertures include multiple discrete holes in said base sheet.

1 39. A surgical barrier device, comprising:

2 an inflatable thermal blanket having:

3 a flexible base sheet with two ends, two edges, and an undersurface;

4 said two ends and two edges of said base sheet forming a periphery;

5 said base sheet including a first layer of flexible material and a layer
6 of plastic material laminated to said first layer of flexible material;

7 an overlaying material sheet attached to said layer of plastic material
8 to form said base sheet and said overlaying material sheet into an inflatable
9 covering;

10 an inflating inlet for admitting a thermally controlled, inflating medium
11 into said inflatable covering;

12 apertures opening through said base sheet for exhausting a thermally
13 controlled inflating medium from said inflatable covering through said base
14 sheet;

15 said inflatable covering being sized and configured to cover one or more
16 partial portions of a body; and

17 a surgical drape extending beyond said periphery, said surgical drape for
18 covering additional portions of said body; with

19 an opening formed in said surgical drape for accessing a care site on said
20 body.

1 40. A surgical barrier device in accordance with Claim 39 wherein said
2 inflatable thermal blanket is configured to cover the pelvic region and lower
3 extremities of said body, and said surgical drape is generally rectangular in shape.

1 41. A surgical barrier device in accordance with Claim 40, wherein said
2 inflatable thermal blanket has a recess at one end thereof, and said opening is
3 adjacent to said recess.

1 42. A surgical barrier device in accordance with Claim 39, wherein said
2 inflatable thermal blanket is configured to cover the chest and upper extremities of
3 said body, and said surgical drape is generally rectangular in shape.

1 43. A surgical barrier device in accordance with Claim 42, wherein said
2 inflatable thermal blanket has a recess at both ends thereof, and said opening is
3 adjacent to one of said recesses.

1 44. A surgical barrier device in accordance with Claim 39, wherein said
2 inflatable thermal blanket is configured to cover the torso and upper extremities of
3 said body, and said surgical drape is generally rectangular in shape.

1 45. A surgical barrier device in accordance with Claim 44, wherein said
2 inflatable thermal blanket has a recess at both ends thereof, and said opening is
3 adjacent to one of said recesses.

1 46. A surgical barrier device in accordance with Claim 39, wherein said
2 inflatable thermal blanket is configured to cover the torso, the upper extremities and
3 the lower extremities of said body, and said surgical drape has a generally rectangular
4 first portion and a pair of second portions separated by said opening.

1 47. A surgical barrier device in accordance with Claim 46, wherein said
2 inflatable thermal blanket has a recess at one end thereof, and said opening is
3 adjacent to said recess.

1 48. A surgical barrier device in accordance with Claim 47, wherein said
2 opening includes a longitudinal V-shaped notch and a transverse slit intersecting one
3 end of said notch.

1 49. A surgical barrier device in accordance with Claim 39, further
2 including a frame for supporting one end of said surgical drape away from the face
3 of said body.

1 50. A surgical barrier device in accordance with Claim 49, wherein said
2 surgical drape is formed by an extension of said base sheet.

1 51. A surgical barrier device in accordance with Claim 39, wherein said
2 surgical drape is formed by an extension of said overlaying material sheet.

52. A surgical barrier device in accordance with Claim 39, wherein said surgical drape is formed by a surgical drape sheet of flexible material which is attached to said base sheet.

53. A surgical barrier device in accordance with Claim 39, wherein said surgical drape sheet is attached to said overlaying material sheet.

54. A surgical barrier device in accordance with claim 53, wherein said surgical drape sheet is attached at an edge portion thereof to the periphery of said overlaying material sheet.

55. A surgical barrier device in accordance with Claim 53, wherein said surgical drape sheet covers the entirety of said overlaying material sheet and is attached to the periphery of said overlaying material sheet.

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1 56. A method of isolating a surgical site on a person using a surgical
2 barrier device that includes an inflatable structure formed from a flexible base sheet
3 and an overlaying material sheet attached to said base sheet by at least one seal, near
4 the periphery of said inflatable structure, apertures that open into said inflatable
5 structure through said flexible base sheet for exhausting air from said inflatable
6 structure, said inflatable structure being sized and configured to cover one or more
7 partial portions of said person, and a surgical drape attached to, or formed integrally
8 with the inflatable structure, and extending beyond said periphery of said inflatable
9 structure, said surgical drape being sized and configured to cover additional portions
10 of said person and having an opening formed therein for accessing a surgical site on
11 said body, the method comprising:

12 covering a portion of said person's body with said inflatable structure and said
13 surgical drape;

14 deploying said surgical drape to cover other portions of said person's body;

15 positioning the opening to expose a surgical site on said person's body;

16 inflating said inflatable structure with warmed air; and

17 exhausting warmed air through said apertures in said flexible base sheet.

1 57. The method of Claim 56, wherein the surgical drape is deployed to cover
2 substantially all of the patient's body not covered by said inflatable structure and
3 exposed by said opening.

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